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(54) RADIO LAN SYSTEM

(57)Abstract:

PROBLEM TO BE SOLVED: To avoid multiple occurrences of hidden radio terminals in the case of radio channel connection at a standard speed, data transfer at a high speed and data transfer at a high speed in a network area of a radio LAN in compliance with the 'IEEE802.11'.

SOLUTION: A data-processing section 13 sends an RTS frame through a standardized radio LAN modem 12 in the transmission operation and selects a high-speed data transfer modem 11, after awaiting reception of a CTS frame sent by a receiver side radio terminal and thereafter transmits a data frame. The reception of an ACK frame from a receiver side radio terminal is awaited after that, the data transmission processing is finished, and the radio channel is released. At reception time, an RTS frame from a transmitter side radio terminal is received through the standardized radio LAN modem

12, and the CTS frame is sent. The standardized radio LAN modem 12 is selected, the data frame is received, and an ACK frame with respect to the data frame is sent to the receiver side radio terminal.

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CLAIMS

[Claim(s)]

[Claim 1] While a wireless terminal exchanges the frame transmission and reception for radio-channel connection and performing data transmission and reception through the connected radio channel In the wireless LAN system by which other wireless terminals which received frame transmission and reception control transmission The wireless LAN system characterized by making radio-channel connection for the frame transmission and reception for connection of said wireless terminal of a radio channel by the data transfer of the 1st rate, and performing data transmission and reception next by the data transfer of the 2nd rate quicker than the data transfer of said 1st rate.

[Claim 2] While performing data transmission and reception with the high-speed-data transfer modem which performs strange recovery processing for performing a high-speed-data transfer as a wireless terminal which performs data transmission and reception, and the modem for wireless LAN which performs strange recovery processing for performing low-speed data transfer ** which sends out the modem change signal which chooses either said high-speed-data transfer modem or the modem for wireless LAN The data-processing section, The wireless RF processing section changed and outputted to the signal with which wireless transmission of the sending signal from a high-speed-data transfer modem or the modem for wireless LAN is carried out, and a high-speed-data transfer modem or the modem for wireless LAN restores to an input signal, The wireless LAN system according to claim 1 characterized by having the circuit changing switch which chooses either a high-speed-data transfer modem or the modem for wireless LAN with the modem change signal from said data-processing section.

[Claim 3] At the time of transmission, said data-processing section controls the change of a circuit changing switch, chooses the modem for wireless LAN, and transmits the RTS frame to it. And while making connection which receives the CTS frame and secures a radio channel, controlling the change of a circuit changing switch after this radio-channel connection, choosing a high-speed-data transfer modem and transmitting a data frame The wireless LAN system according to claim 2 characterized by performing processing which receives the ACK frame and ends data transmission.

[Claim 4] Said data-processing section controls the change of a circuit changing switch at the time of reception, chooses the modem for wireless LAN, and receives

the RTS frame. And while making connection which transmits the CTS frame and secures a radio channel, controlling the change of a circuit changing switch after this radio-channel connection, choosing a high-speed-data transfer modem and receiving a data frame The wireless LAN system according to claim 2 characterized by performing processing which transmits the ACK frame and ends data transmission.

[Claim 5] The wireless LAN system according to claim 2 characterized by said high-speed-data transfer modem being data transfer rate 4.8Mbps at least.

[Claim 6] The wireless LAN system according to claim 2 characterized by said modem for wireless LAN being data transfer rate 2.0Mbps at least.

DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[Field of the Invention] This invention relates to the wireless LAN system which performs a high-speed-data transfer through the standardized present wireless LAN system and the high-speed wireless LAN system which can be used together.

[0002]

[Description of the Prior Art] Conventionally, in a wireless LAN system, since all wireless terminals cannot recognize the existence mutually, there is a problem on which a transmitting output collides on a radio channel and the wireless terminal of a receiving side cannot receive data normally. That is, transmission is started, while

using a radio channel, normal data reception with other wireless terminals is blocked, and it hides, and the wireless terminal is known.

[0003] The example of JP,7-307977,A is known as such an example of an improvement, this example of an official report sets up the busy tone channel of dedication, and the wireless terminal which performs data transmission and reception sends out this busy tone. When other wireless terminals around the wireless terminal which performs these transmission and reception receive a busy tone through a busy tone channel, they suspend that transmission. As for this kind of wireless LAN system, the standardization is performed by "IEEE802.11."

[0004] Drawing 5 is the processed data of the conventional wireless LAN system, and its timing chart. In drawing 5, by SHIKEN convention of this example, as shown in drawing 5 (A), the RST frame which is the demand signal of the connection of the wireless terminal of transmission with the wireless terminal of a receiving side is sent out to the radio channel for performing data communication, and a receiving-side wireless terminal sends out the CTS frame of the reply signal which answers the RST frame and is shown in drawing 5 (B).

[0005] Corresponding to this CTS frame, a transmitting-side wireless terminal outputs the data frame of the transmission information shown in drawing 5 (A). Furthermore, a receiving-side wireless terminal transmits the ACK frame of the acknowledge signal shown in drawing 5 (B) corresponding to this data frame. The hour entry to termination (falling) of the ACK frame is stored in the RST frame and the CTS frame.

[0006] Other wireless terminals receive the transmission and reception in this case, and as this wireless terminal is shown in drawing 5 (C) and (D), as for this time amount, transmission from a self-wireless terminal is suspended based on the hour entry to termination (falling) of the ACK frame of the RST frame or the CTS frame (control).

[0007] Moreover, the modems using the spectrum diffusion (SS) method in "IEEE802.11" are a data transfer rate (rate) 1 - 2Mbps, and are standardized with the low data transfer rate as compared with Cable LAN.

[0008]

[Problem(s) to be Solved by the Invention] In such an above-mentioned conventional example, in case a high-speed-data transfer is performed in the network area of the wireless LAN of "IEEE802.11", it hides and there is a fault which blocks normal data reception, without the ability performing transmitting control that wireless terminals occur frequently.

[0009] That is, at the wireless terminal which used the modem (low-speed data transfer) of the an "IEEE802.11" convention, if a radio channel is connected using the

modem in which a high-speed-data transfer is possible in the network area of the wireless LAN of "IEEE802.11", since those data transfer rates differ, the wireless terminal of this low-speed data transfer cannot recognize connection of the radio channel by high-speed-data transfer. Therefore, transmission is started, while using a radio channel, normal data reception with other wireless terminals is blocked, and it hides, and wireless terminals occur frequently.

[0010] this invention be made in view of the above-mentioned point, in case it come to be able to perform radio channel connection and a high speed data transfer and perform a high speed data transfer in the network area of the wireless LAN of "IEEE802.11" with the modem according to individual, while use a radio channel, start transmission, and aim at the wireless LAN system distribution which block normal data reception with other wireless terminals and to which it hide and the problem solving of frequent occurrence of a wireless terminal become possible.

[0011]

[Means for Solving the Problem] In order to attain the above-mentioned purpose, while a wireless terminal exchanges the frame transmission and reception for radio-channel connection and this invention performs data transmission and reception through the connected radio channel In the wireless LAN system by which other wireless terminals which received frame transmission and reception control transmission It is characterized by making radio-channel connection for the frame transmission and reception for connection of a wireless terminal of a radio channel by the data transfer of the 1st rate, and performing data transmission and reception next by the data transfer of the 2nd rate quicker than the data transfer of the 1st rate.

[0012] furthermore, the wireless LAN system of this invention as a wireless terminal which performs said data transmission and reception While performing data transmission and reception with the high-speed-data transfer modem which performs strange recovery processing for performing a high-speed-data transfer, and the modem for wireless LAN which performs strange recovery processing for performing low-speed data transfer ** which sends out the modem change signal which chooses either a high-speed-data transfer modem or the modem for wireless LAN The data-processing section, The wireless RF processing section changed and outputted to the signal with which wireless transmission of the sending signal from a high-speed-data transfer modem or the modem for wireless LAN is carried out, and a high-speed-data transfer modem or the modem for wireless LAN restores to an input signal, It is characterized by having the circuit changing switch which chooses either a high-speed-data transfer modem or the modem for wireless LAN with the modem

change signal from the data-processing section.

[0013] Moreover, as for the wireless LAN system of this invention, said data-processing section controls the change of a circuit changing switch at the time of transmission. Connection which chooses the modem for wireless LAN, and transmits the RTS frame, and receives the CTS frame, and secures a radio channel is made. While controlling the change of a circuit changing switch, choosing a high-speed-data transfer modem and transmitting a data frame after this radio-channel connection, it is characterized by performing processing which receives the ACK frame and ends data transmission.

[0014] Furthermore, as for the wireless LAN system of this invention, said data-processing section controls the change of a circuit changing switch at the time of reception. Connection which chooses the modem for wireless LAN, and receives the RTS frame, and transmits the CTS frame, and secures a radio channel is made. While controlling the change of a circuit changing switch after this radio-channel connection, choosing a high-speed-data transfer modem and receiving a data frame, it is characterized by performing processing which transmits the ACK frame and ends data transmission.

[0015] Moreover, the wireless LAN system of this invention is characterized by said high-speed-data transfer modem being data transfer rate 4.8Mbps at least.

[0016] Furthermore, the wireless LAN system of this invention is characterized by said modem for wireless LAN being data transfer rate 2.0Mbps at least.

[0017] In the wireless LAN system of the configuration of this invention, while a wireless terminal exchanges the frame transmission and reception for the radio-channel connection for performing data communication and starting data transmission and reception, other wireless terminals which received frame transmission and reception control transmission. In this case, the frame transmission and reception for connection of a wireless terminal of a radio channel are performed with the transfer rate (data transfer rate 2.0Mbps standardized by "IEEE802.11") of the 1st rate, and data transmission and reception are performed with the 2nd rate data transfer rate (transfer rate 4.8Mbps) quicker than the data transfer of the 1st rate.

[0018] Therefore, normal data reception in the network area of the wireless LAN of "IEEE802.11" is blocked, it hides, and frequent occurrence of a wireless terminal is avoided. That is, while connection processing of the radio channel by the RST frame or the CTS frame unifies by data transfer rate 2.0Mbps standardized for example, by IEEE802.11" and is performed, the high-speed-data transfer to transmission data is

attained. the time of using the modem which can carry out a high-speed-data transfer in the network area of the wireless LAN of "IEEE802.11", when putting in another way -- the wireless terminal of low-speed data transfer -- connection of a radio channel -- certain -- it can recognize -- coming -- the -- it hides and a wireless terminal stops occurring frequently

[0019]

[Embodiment of the Invention] This invention is explained based on a drawing below.

[0020] Drawing 1 is the block diagram showing the configuration of the wireless terminal in the operation gestalt of the wireless LAN system of this invention. In drawing 1 , a data frame and the ACK frame to this data frame are sent out, the high-speed-data transfer modem 11 in which the data transfer by strange recovery processing at a high speed is possible, and the RST frame or the CTS frame for radio-channel connection is sent out, and "IEEE802.11" specification is applied, and this wireless terminal 10 has the modem 12 for standardization wireless LAN which performs low-speed data transfer rather than said high-speed-data transfer modem 11.

[0021] Furthermore, it has the data-processing section 13 which sends out the modem change signal Sa for sending out transmit data to this wireless terminal 10, processing received data to it, and choosing either the high-speed-data transfer modem 11 or the modem 12 for standardization wireless LAN as it. moreover -- high speed data -- a transfer -- a modem -- 11 -- or -- a standardization -- wireless LAN -- ** -- a modem -- 12 -- from -- a sending signal -- a radio channel -- a frequency band -- changing -- an antenna -- Ant -- from -- transmitting -- and -- an antenna -- Ant -- leading -- having received -- a radio channel -- an input signal -- high speed data -- a transfer -- a modem -- 11 -- or -- a standardization -- wireless LAN -- ** -- a modem -- 12 -- a recovery -- processing -- it can do -- a frequency band -- changing -- outputting -- wireless -- a RF -- processing -- (-- RF --) -- the section -- 14 -- having -- **** .

[0022] And it has the switch sections SW15 and SW16 which perform the change which chooses either the high-speed-data transfer modem 11 or the modem 12 for standardization wireless LAN with the modem change signal Sa from the data-processing section 13 between the data-processing section 13 and the wireless high frequency processing (RF) section 14.

[0023] Next, actuation of this wireless terminal 10 is explained.

[0024] Drawing 2 is the processing signal and timing chart in actuation of the wireless terminal 10. In drawing 1 and drawing 2 , in case the wireless terminal 10 operates as a

data source, first, with the modem change signal Sa from the data-processing section 13, the switch sections SW15 and SW16 are changed, and the modem 12 for standardization wireless LAN is connected between the data-processing section 13 and the wireless RF processing (RF) section 14.

[0025] Then, it transmits to the wireless terminal of a configuration of being shown in drawing 1 which does not illustrate the RTS frame of the connection request of a radio channel through the switch sections SW15 and SW16, the modem 12 for standardization wireless LAN, the wireless RF processing (RF) section 14, and Antenna Ant from the data-processing section 13 as shown in drawing 2 (A). And the data-processing section 13 incorporates the CTS frame shown in drawing 2 (B) which the wireless terminal of the receiving side which is the response to this transmission transmits through Antenna Ant, the wireless high frequency processing (RF) section 14, the modem 12 for standardization wireless LAN, and the switch sections SW15 and SW16.

[0026] After the connection which secures the radio channel to which the data-processing section 13 incorporates this CTS frame is completed, the data-processing section 13 sends out the modem change signal Sa for connecting the high-speed-data transfer modem 11 between the data-processing section 13 and the wireless high frequency processing (RF) section 14 to the switch sections SW15 and SW16.

[0027] The high-speed-data transfer which led the high-speed-data transfer modem 11 after selection connection of this high-speed-data transfer modem 11 is performed. That is, it transmits to the wireless terminal of a configuration of being shown in drawing 1 which does not illustrate a data frame through the switch sections SW15 and SW16, the high-speed-data transfer modem 11, the wireless RF processing (RF) section 14, and Antenna Ant from the data-processing section 13 as shown in drawing 2 (A).

[0028] The data-processing section 13 incorporates the ACK frame shown in drawing 2 (B) which the wireless terminal of the receiving side which is the response to this transmission transmits through Antenna Ant, the wireless high frequency processing (RF) section 14, the high-speed-data transfer modem 11, and the switch sections SW15 and SW16, that data transmitting processing is ended, and a radio channel is opened.

[0029] Next, the case where the wireless terminal 10 operates as a data receiving side is explained.

[0030] First, with the modem change signal Sa from the data-processing section 13,

the switch sections SW15 and SW16 are changed, and the modem 12 for standardization wireless LAN is connected between the data-processing section 13 and the wireless RF processing (RF) section 14.

[0031] Next, the data-processing section 13 incorporates the RTS frame from the wireless terminal of a transmitting side through Antenna Ant, the wireless high frequency processing (RF) section 14, the modem 12 for standardization wireless LAN, and the switch sections SW15 and SW16. And the data-processing section 13 generates the CTS frame which is a response, and transmits to the wireless terminal of a configuration of being shown in drawing 1 which is not illustrated through the switch sections SW15 and SW16, the modem 12 for standardization wireless LAN, the wireless RF processing (RF) section 14, and Antenna Ant.

[0032] the connection which secures 4s radio channels to these transmission and reception is completed, and after this, the data-processing section 13 sends out the modem change signal Sa to the switch sections SW15 and SW16, and connects the high-speed-data transfer modem 11 between the data-processing section 13 and the wireless RF processing (RF) section 14. Then, the data-processing section 13 receives a data frame through Antenna Ant, the wireless high frequency processing (RF) section 14, the high-speed-data transfer modem 11, and the switch sections SW15 and SW16. And the data-processing section 13 generates the ACK frame which is the response to reception of this data frame, it transmits to the wireless terminal of a configuration of being shown in drawing 1 which is not illustrated through the switch sections SW15 and SW16, the high-speed-data transfer modem 11, the wireless RF processing (RF) section 14, and Antenna Ant, that data reception is ended, and connection of a radio channel is opened.

[0033] It is in transceiver processing of this wireless terminal 10, and as other wireless terminals are shown in drawing 2 (C) and (D), based on the hour entry to termination (falling) of the ACK frame of the RST frame or the CTS frame, this time amount generated the transmitting control signal for suspending the transmission from a self-wireless terminal, and has suspended that transmission (control).

[0034] Drawing 3 is the block diagram showing the wireless network where many wireless terminals perform data transmission and reception. In drawing 3, it has the standardized wireless LAN system and the high-speed wireless LAN system which can be used together, and has the transmitting-side wireless terminal 21 which performs data transmission of the configuration of the wireless terminal 10 shown in drawing 2 in this wireless network.

[0035] Furthermore, this wireless network has the receiving-side wireless terminal 22

which has the configuration of the wireless terminal 10 shown in drawing 2 , and receives the transmit data from the transmitting-side wireless terminal 21, and the wireless terminal 23 which receives transmit data through the modem 12 for standardization wireless LAN with which "IEEE802.11" specification from the transmitting-side wireless terminal 21 is applied. It hides. moreover, this wireless network receives transmit data through the modem 12 for standardization wireless LAN with which "IEEE802.11" specification from the transmitting-side wireless terminal 21 is applied, and cannot be recognized at the receiving-side wireless terminal 22 -- with the wireless terminal 24 when the receiving-side wireless terminal 22 becomes a transmitting side, transmit data is received through the modem 12 for standardization wireless LAN with which "IEEE802.11" specification is applied, and at the receiving-side wireless terminal 21, recognition is impossible -- it hides and has the wireless terminal 25.

[0036] Next, actuation of the wireless network shown in this drawing 3 is explained.

[0037] Here, it overlaps, and the processing signal and timing chart which are shown in drawing 2 are used and explained. In drawing 2 and drawing 3 , it operates to the transmitting processing timing (transmitting-side wireless terminal output) which the transmitting-side wireless terminal 21 in drawing 3 shows to drawing 2 (A) here, and the receiving-side wireless terminal 22 is operating to the reception timing (receiving-side wireless terminal output) of drawing 2 (B). Furthermore, it operates to the wireless terminal 23 and the transmitting control timing (transmitting control signal of other wireless terminals which received RST) which it hides and the wireless terminal 24 shows to drawing 2 (C) in drawing 3 , and it hides in drawing 3 and the wireless terminal 25 is operating to the transmitting control timing (transmitting control signal of other wireless terminals which received only CTS) shown in drawing 2 (D).

[0038] The transmitting-side wireless terminal 21 carries a hour entry until the RTS frame, the CTS frame, a data frame, the ACK frame, and a series of transmitting processings are completed in the RTS frame, and is transmitted. It hides and the wireless terminal 24 performs the wireless terminal 23 which received this transmission, and inhibitory control which will suspend transmission by the time reception is completed. The receiving-side wireless terminal 22 which received the RTS frame transmits the CTS frame through the modem 12 for standardization wireless LAN, and chooses the high-speed-data transfer modem 11 shown in drawing 1 next.

[0039] The CTS frame was received, it hides and, as for the wireless terminal 25, the

termination time of the ACK frame performs inhibitory control of transmission with the self-**** wireless terminal 25. The receiving-side wireless terminal 22 which received the CTS frame through the modem 12 for standardization wireless LAN transmits the ACK frame, and chooses the modem 12 for standardization wireless LAN shown in drawing 1 next. The transmitting-side wireless terminal 21 which received the ACK frame performs the change which chooses the high-speed-data transfer modem 11 shown in drawing 1 .

[0040] consequently, the wireless terminal 23 located in the transmitting section of a data frame and the ACK frame near the transmitting-side wireless terminal 21 and the receiving-side wireless terminal 22 -- hiding -- the wireless terminal 24 -- and it hides and transmission of the wireless terminal 25 is inhibited. Also in case the high-speed-data transfer using the high-speed-data transfer modem 11 is performed in the network area of the wireless LAN of "IEEE802.11", normal data reception is blocked, it hides, without the ability performing transmitting control, and a wireless terminal stops therefore, occurring frequently.

[0041] Drawing 4 is the block diagram showing the concrete configuration of the wireless terminal 10 shown in drawing 1 . In drawing 4 , this wireless terminal 30 sends out a data frame and the ACK frame to this data frame, and has the MCDS modem 31 of data transfer rate 4.8Mbps (BPS), and the DS modem 32 of data transfer rate 2.0Mbps (BPS) which sent out the RST frame or the CTS frame for radio-channel connection, and was standardized by "IEEE802.11" specification.

[0042] Furthermore, to this wireless terminal 30, it has the information processing section 33 which manages the transmitting sequence of a frame, and sends out transmit data with MAC35 which sends out the modem change signal Sa which chooses one side of the MCDS modem 31 and the DS modem 32, or processes received data. moreover -- MCDS -- a modem -- 31 -- DS -- a modem -- 32 -- from -- a sending signal -- a radio channel -- a frequency band (an ISM band, 2.4GHz) -- changing -- an antenna -- Ant -- from -- transmitting -- and -- an antenna -- Ant -- leading -- having received -- a radio channel -- an input signal -- MCDS -- a modem -- 31 -- DS -- a modem -- 32 -- a recovery -- being possible -- carrying out -- a frequency band -- changing -- outputting -- wireless -- a RF -- processing -- (-- RF --) -- the section -- 34 -- having -- **** .

[0043] And it has the switch sections SW135 and SW136 which perform the change which chooses either the MCDS modem 31 of data transfer rate 4.8Mbps, or the DS modem 32 of data transfer rate 2.0Mbps with the modem change signal Sa from MAC35 between MAC35 and the wireless high frequency processing (RF) section 34.

[0044] Actuation of this wireless terminal 30 is the same actuation as the wireless terminal 10 shown in drawing 1 . That is, it is the same as that of the processing signal and timing which are shown in drawing 2 .

[0045] In case the wireless terminal 30 operates as a data source, first, with the modem change signal Sa from MAC35, the switch sections SW135 and SW136 are changed, and the DS modem 32 of data transfer rate 2.0Mbps is connected between MAC35 and the wireless RF processing (RF) section 34.

[0046] Then, as shown in drawing 2 (A), the RTS frame of the connection request of a radio channel is transmitted to the wireless terminal of a configuration of being shown in drawing 1 which is not illustrated through the switch sections SW135 and SW136, the DS modem 32 of data transfer rate 2.0Mbps, the wireless RF processing (RF) section 34, and Antenna Ant from the information processing section 33 and MAC35. And the information processing section 33 incorporates the CTS frame shown in drawing 2 (B) which the wireless terminal of the receiving side which is the response to this transmission transmits through the DS modem 32 and the switch sections SW135, SW136, and MAC35 of Antenna Ant, the wireless high frequency processing (RF) section 34, and data transfer rate 2.0Mbps.

[0047] After the connection which the information processing section 33 takes this CTS frame, and secures a radio channel by ** is completed, the information processing section 33 sends out the modem change signal Sa for connecting the MCDS modem 31 of data transfer rate 4.8Mbps between MAC35 and the wireless high frequency processing (RF) section 34 to the switch sections SW135 and SW136.

[0048] The high-speed-data transfer which led the MCDS modem 31 after selection connection of the MCDS modem 31 of this data transfer rate 4.8Mbps is performed. That is, as shown in drawing 2 (A), a data frame is transmitted to the wireless terminal of a configuration of being shown in drawing 1 which is not illustrated through the switch sections SW135 and SW136, the MCDS modem 31 of data transfer rate 4.8Mbps, the wireless RF processing (RF) section 34, and Antenna Ant from the information processing section 33 and MAC35.

[0049] MAC35 and the information processing section 33 incorporate the ACK frame shown in drawing 2 (B) which the wireless terminal of the receiving side which is the response to this transmission transmits through Antenna Ant, the wireless high frequency processing (RF) section 34, the MCDS modem 31, and the switch sections SW135 and SW136, that transmitting processing is ended, and a radio channel is opened.

[0050] Next, the case where the wireless terminal 30 operates as a data receiving side

is explained. First, with the information processing section 33 and the modem change signal Sa from MAC35, the switch sections SW135 and SW136 are changed, and the DS modem 32 of data transfer rate 2.0Mbps is connected between MAC35 and the wireless RF processing (RF) section 34.

[0051] Next, MAC35 and the information processing section 33 incorporate the RTS frame from the wireless terminal of a transmitting side through the DS modem 32 and the switch sections SW135 and SW136 of Antenna Ant, the wireless high frequency processing (RF) section 34, and data transfer rate 2.0Mbps. And MAC35 generates the CTS frame which is a response, and transmits to the wireless terminal of a configuration of being shown in drawing 1 which is not illustrated through the switch sections SW135 and SW136, the DS modem 32 of data transfer rate 2.0Mbps, the wireless RF processing (RF) section 34, and Antenna Ant.

[0052] By these transmission and reception, the connection which secured the radio channel is completed, and after this, the information processing section 33 and MAC35 send out the modem change signal Sa to the switch sections SW135 and SW136, and connect the MCDS modem 31 of data transfer rate 4.8Mbps between MAC35 and the wireless RF processing (RF) section 34. Then, MAC35 and the information processing section 33 receive a data frame through the MCDS modem 31 and the switch sections SW135 and SW136 of Antenna Ant, the wireless high frequency processing (RF) section 34, and data transfer rate 4.8Mbps.

[0053] And MAC35 and the information processing section 33 generate the ACK frame which is the response to reception of this data frame, it transmits to the wireless terminal of a configuration of being shown in drawing 1 which is not illustrated through the switch sections SW135 and SW136, the MCDS modem 31 of data transfer rate 4.8Mbps, the wireless RF processing (RF) section 34, and Antenna Ant, that data reception is ended, and connection of a radio channel is opened.

[0054] It is in transceiver processing of this wireless terminal 30, and as other wireless terminals are shown in drawing 2 (C) and (D), based on the hour entry to termination (falling) of the ACK frame of the RST frame or the CTS frame, this time amount generated the transmitting control signal for suspending the transmission from a self-wireless terminal, and has suspended that transmission (control).

[0055]

[Effect of the Invention] As explained above, according to the wireless LAN system of this invention, the frame transmission and reception for connection of a wireless terminal of a radio channel are performed with the transfer rate of the 1st rate, and data transmission and reception are performed with the 2nd rate data transfer rate

quicker than the data transfer of the 1st rate.

[0056] Consequently, while connection processing of the radio channel by the RST frame or the CTS frame unifies for example, by data transfer rate 2.0Mbps and is performed, a high-speed-data transfer of data transfer rate 4.8Mbps to transmission data is attained. therefore, the time of performing a high-speed-data transfer in the network area of the wireless LAN of "IEEE802.11" -- the wireless terminal of low-speed data transfer -- connection of a radio channel -- certain -- it can recognize -- coming -- the -- it hides and a wireless terminal stops occurring frequently

DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]

[Drawing 1] It is the block diagram showing the configuration of the wireless terminal in the operation gestalt of the wireless LAN system of this invention.

[Drawing 2] It is in an operation gestalt and is the processing signal and timing chart in actuation of a wireless terminal.

[Drawing 3] It is the block diagram showing the wireless network where it is in an operation gestalt and many wireless terminals perform data transmission and reception.

[Drawing 4] It is the block diagram showing the concrete configuration of the wireless terminal shown in drawing 1 .

[Drawing 5] They are the processed data of the conventional wireless LAN system,

and its timing chart.

[Description of Notations]

10, 23, 30 Wireless terminal

11 High-Speed-Data Transfer Modem

12 Modem for Standardization Wireless LAN

13 Data-Processing Section

14 34 Wireless RF processing (RF) section

21 Transmitting-Side Wireless Terminal

22 Receiving-Side Wireless Terminal

24 25 It hides and is a wireless terminal.

31 MCDS Modem

32 DS Modem

33 Information Processing Section

35 MAC

Sa Modem change signal

SW15, SW16, SW135, SW136 Switch section